

REMARKS

Claim 24 was rejected to as failing to comply with the written description requirement. Applicants cannot agree. Applicants wish to point out that, according to MPEP 2163.04, the description as filed is presumed to be adequate; unless or until sufficient evidence or reasoning to the contrary has been presented by the examiner to rebut the presumption. The Office Action merely states that "nowhere in the instant specification is it described how or with what process parameters the hydrolysis step is "controlled" in order to produce such a selected particle size distribution". Contrary to this premise, at least Examples 11 and 12, as well as paragraphs [0057] – [0062] and [0103] - [0113] provide adequate guidance to one skilled in the art to make and use the invention. Therefore, the Action does not provide a *prima facie* case of failure to meet the written description since it does not provide reasons why a person skilled in the art at the time the application was filed would not have recognized from at least Examples 11 and 12, as well as paragraphs [0057] – [0062] and [0103] - [0113] that the applicants were in possession of the invention as claimed in claim 24. Withdrawal of the rejection is proper and requested.

Several claims were rejected as being indefinite for lacking antecedent basis and for other minor grounds. The rejected claims have been amended to put them in better form without changing the scope of the claims. Therefore, it is believed that the rejections are now moot.

Claims 1-24 were rejected as being unpatentable over Davis. In addition, claims 12-15 were rejected as being unpatentable over Davis and Rahm. As an initial matter, it is not seen how claims 12-15 can be rejected in view of Davis if it is latter admitted that

the subject matter of claims 12-15 is not taught by and Davis, necessitating the further rejection in view of Davis and Rahm. Therefore, it is assumed that claims 12-15 are rejected only under the combination of Davis and Rahm. A similar situation applies to claims 19-23, which were rejected as being unpatentable over Davis and Watanabe.

Turning to the rejection of claims 1-11, 16-18, and 24, the Office Action's statement that it "may differ" disregards the premise of the stated rejection under 35 U.S.C. 103, which necessarily requires that the primary reference does not teach or suggest all of the features required by the claims. Accordingly, the present response will assume that the Examiner admits that Davis does not teach or suggest at least a further leach step of leaching the residual solid phase from step (b) with a sulfuric acid solution to form titanyl sulfate and iron sulfate solution and a residual solid phase, separating the leach liquor and supplying the leach liquor to leach step (a) and/or mixing the separated leach liquor from step (b).

In fact, not only does Davis not show the above steps but Davis does not disclose steps (c) and (d). Step (c) of present claim 1 requires "separating titanyl sulfate from the leach liquor of step (b). This step produces on the one hand separated titanyl sulfate and on the other hand residual leach liquor. In contrast, Davis discloses removing iron sulfate from the solution of iron sulfate and titanyl sulfate to provide a solution of titanyl sulfate. In other words, the process of Davis produces the products of (i) separated iron sulfate and (ii) residual leach liquor including titanyl sulfate. This is opposite of claim 1 in which step (c) requires separating titanyl sulfate from the leach liquor; whereas Davis teaches retaining titanyl sulfate in the residual leach liquor.

Claim 1 at step (d) then requires the subsequent step of hydrolyzing the separated titanyl sulfate. Because Davis does not separate titanyl sulfate in any preceding step, logically there is no disclosure of hydrolyzing the separated titanyl sulfate as required by step (d) of claim 1. In view of the fact that Davis does not teach or suggest, or even recognize the steps (c) and (d) of claim 1, Davis cannot and does not render obvious the rejected claims. Withdrawal of the rejection is proper and requested.

The Action on pages 4 and 5 includes two paragraphs citing to *In re Boesch*, 205 USPQ 215 and *In re Malagari*, 182 USPQ 549. It is not clear from the Action how these paragraphs apply to the rejection of the claims. In particular, *In re Boesch* concerned an obviousness rejection where each of the ranges of constituents in a claimed alloy overlapped ranges disclosed in the cited art. Similarly, *In re Malagari* concerned an obviousness rejection where the claimed range of carbon in the steel used as a starting material touched that disclosed in the typical preferred range of the reference. In the instant case, however, claim 1, from which all the other dependent claims depend from (either directly or indirectly) does not contain any ranges. Thus, reference to these cases is inapposite. If the Examiner believes these cases are relevant, it is requested that their relevance be identified.

With respect to the rejection of claims 12-15, the deficiencies with Davis have been described above and are incorporated herein with respect to claims 12-15. Adding Rahm, which shows the same process as Davis (compare the figures of each) does not solve those deficiencies and the rejection should therefore be withdrawn. Rahm, like Davis, does not teach or suggest at least steps (c) and (d). Thus, combining

Davis and Rahm still does not teach or suggest each of the required elements of claim

1. Therefore, the rejection should be withdrawn.

With respect to the rejection of claims 19-23, the deficiencies with Davis have been described above and are incorporated herein with respect to claims 19-23. In addition, the Examiner notes that Davis "may" not state solvent extraction of titanyl sulfate. In fact, Davis does not mention or even hint at solvent extraction. The Examiner contends, however, that Watanabe teaches a similar process as Davis and teaches the solvent extraction of titanyl sulfate which avoids discharge of waste acid. The Examiner then concludes that it would have been obvious to solvent extract titanyl sulfate in the process of Davis because this avoids discharge of waste acid. Applicants cannot agree.

The stated premise of the motivation to combine Davis and Watanabe is false. The action states that it would have been obvious (i.e., one of skill in the art would have been motivated to combine Davis and Watanabe) because solvent extracting titanyl sulfate in the process of Davis avoids discharge of waste acid. In fact, the process of Davis already avoids discharge of waste acid in that spent acid (27) is concentrated in concentrator (28) and combined with fresh acid (12). In fact, Davis points out that

[a] significant advantage of the process of the present invention is that it reduces or even eliminates the severe "spent acid" disposal problem that is characteristic of the conventional sulphate process for the manufacture of titanium dioxide pigment. Specifically, the spent acid resulting from the digestion, crystallization and hydrolysis steps of the process are reprocessed or recycled for use in conducting the digestion reaction with ilmenite ore. Thus, the process of the present invention is free or substantially free of waste spent acid.

In view of Davis' clear teaching that its process is free of or substantially free of waste spent acid, the premise for combining Davis and Watanabe does not exist. A *prima*

facie case of obviousness has not and can not be established. Therefore, the rejection should be withdrawn.

With respect to the obviousness-type double patenting rejection, that will be addressed upon notification that the present claims are allowable.

It is believed that all the claims are in condition to be allowed. The Examiner is invited to contact the undersigned attorney for the Applicant via telephone if such communication would expedite allowance of this application. If, for any reason, the Examiner feels that the above amendments and remarks do not put the claims in condition for allowance, the undersigned attorney can be reached at (312) 321-4276 to resolve any remaining issues.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'G. Peter Nichols', is written over a horizontal line.

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